

Chapter 3

Creating Controller Applications

Introduction

This chapter describes how to create controller applications in the standalone mode of M-Pro. The same instructions apply when saving controller applications to be downloaded later via the LNS plug-in.

Note: For special instructions on configuring and downloading controller applications through the LNS plug-in, see the chapter *Using M-Pro as an LNS Plug-In* in this document.

This chapter describes how to:

- start M-Pro software
- open an existing controller application
- create a new controller application
- save a controller application
- print application data
- exit M-Pro software

This chapter assumes you have already installed M-Pro software. For installation information, refer to the *M-Tool Overview and Installation Technical Bulletin (LIT-693100)* in this manual.

For information on the specific Question and Answer (Q&A) session for VMA1200 Series controllers, refer to the *Variable Air Volume Modular Assembly (VMA) 1200 Series Controllers Application Note (LIT-1162500)*.

Key Concepts

M-Pro Main Window

Figure 3-1 shows the Main Window of the M-Pro program.
Table 3-1 explains the callouts shown in Figure 3-1.

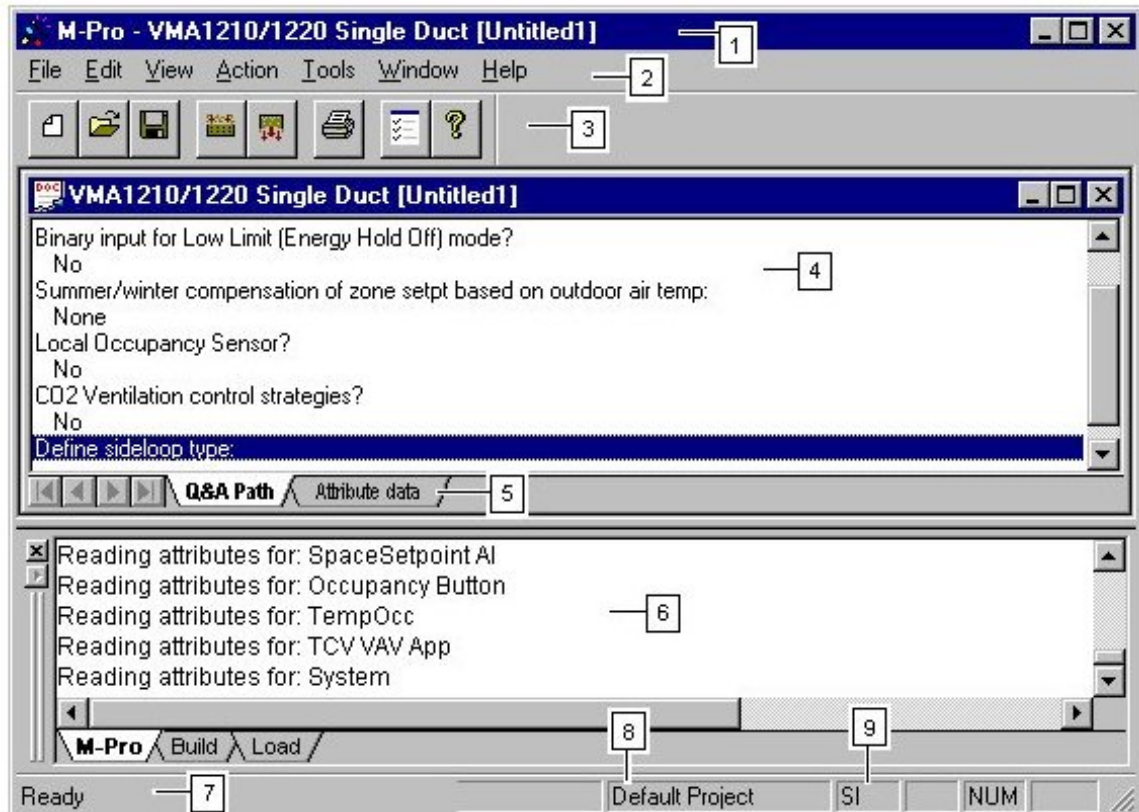


Figure 3-1: M-Pro Main Window

Table 3-1: Main Window Callouts

Callout	Description
1 Title Bar	Shows the M-Pro Windows application name, the name of the selected controller application, and the name of the file to which the controller is saved (in brackets).
2 Menu Bar	Shows top level of available menu selections (Table 3-2).
3 Toolbar	Provides button access to commonly used features (Table 3-3).
4 Question and Answer Path	Displays the questions and answers from the Q&A session.
5 Attribute Data Tab	Shows folders containing the attributes of the application (Figure 4-3).
6 Status Window	Shows progress, warning, and error messages when creating a controller application.
7 Status Bar	Shows on which function the cursor rests, when the computer is ready, and what the computer is doing when creating a controller application.
8 Current Project	Shows the current working project.
9 Engineering Units	Shows the units in which the application is displaying information.

Table 3-2 describes M-Pro menu options.









Table 3-2: M-Pro Main Window Menu Options

Menu	Command	Description
<u>F</u>ile	<u>N</u> ew	Creates a new M-Pro controller application.
	<u>O</u> pen	Opens the Open File dialog box to allow the selection of a saved M-Pro application.
	<u>C</u> lose	Closes the current controller application.
	<u>S</u> ave	Saves the current application. If the application has previously been saved, M-Pro overwrites the older version; otherwise, the Save As dialog box appears. Unless you change the default setting, M-Pro compiles the application when it is saved.
	Save <u>A</u> s	Saves the current controller application under a different name.
	<u>P</u> rint	Prints the current application.
	Print <u>P</u> review	Shows how the printed controller application will look.
	Print <u>S</u> etup	Offers printing options.
	<u>P</u> roperties	Selects information included in the header section of the source file.
	Recent Applications	Contains links to recently edited controller applications.
	<u>E</u> xit	Exits M-Pro software.
<u>E</u>dit	Attribute <u>D</u> ata	Changes attributes of the current controller application.
<u>V</u>iew	<u>T</u> oolBar	Displays the M-Pro toolbar when checked.
	<u>S</u> tatus Bar	Displays a status bar at the bottom of the screen when checked.
	Status <u>W</u> indow	Displays a status window at the bottom of the screen when checked.
<u>A</u>ction	<u>C</u> ompile	Takes the current application and converts it into code ready to be downloaded. The application must be saved first.
	<u>D</u> ownload	Transfers the compiled application (code) to the controller.
	<u>C</u> ommission	Launches Comm Pro commissioning tool (used for commissioning devices such as the VMA1200 controller on LONWORKS networks)
	<u>A</u> bort	Stops compiling or downloading of a controller application.
	Display <u>U</u> nits	Switches the engineering units in which the application is displayed.
<u>T</u>ools	<u>O</u> ptions	Accesses general and printing options.
<u>W</u>indow	<u>C</u> ascade	Displays two or more controller application windows, one on top of the other.
	<u>T</u> ile	Displays two or more controller application windows on the screen without overlap.
	<u>A</u> rrange Icons	Displays and organizes minimized controller application windows as icons.
	Current Controller Applications	Contains links to other opened controller applications.
<u>H</u>elp	<u>H</u> elp Topic	Contains options for finding Help topics.
	<u>A</u> bout M-Pro	Opens the M-Pro information box to display version and copyright.

M-Pro Main Window Toolbar

Table 3-3 describes the M-Pro toolbar buttons.

Table 3-3: M-Pro Toolbar Buttons

Button	Name	Description
	New	Creates a new M-Pro controller application.
	Open	Opens the Open File dialog box to allow the selection of a saved M-Pro application.
	Save	Saves the current application. If the application has previously been saved, this tool overwrites the older version; otherwise, the Save As dialog box appears.
	Compile	Takes the current application and converts it into code suitable for downloading to a controller. The application must be saved first.
	Download	Transfers the compiled application (code) to the controller.
	Print	Prints the current application.
	Options	Accesses general and printing options.
	About M-Pro	Opens the M-Pro information box to display version and copyright.

Procedure Overview

Table 3-4: Getting Started

To Do This	Follow These Steps:
Start M-Pro Software	In the Windows Start menu, select Programs > Johnson Controls > M-Tool > System Tools > M-Pro.
Open an Existing Controller Application	<ol style="list-style-type: none"> 1. Select Open in the File menu. 2. Select a controller application. 3. Click Open. 4. Click the Attribute data tab to view the properties of the application or the Q&A Path tab to view the results of the Q&A session.
Create a New Controller Application	<ol style="list-style-type: none"> 1. Select New in the File menu. 2. Select a project name, application group, and application. 3. Answer the questions. After answering the questions, or to accept the default answers for the remaining questions, click Finish.
Save a Controller Application	<ol style="list-style-type: none"> 1. Select Save in the File menu. 2. Enter a name for the controller application. 3. Click Save.
Print Application Data	<ol style="list-style-type: none"> 1. Select Print in the File menu. The Print dialog box appears. 2. Change the print options by clicking on the Options button if needed. 3. Click OK.
Exit M-Pro Software	In the File menu, select Exit.

Detailed Procedures

These procedures assume you have already installed M-Pro software. For information on how to install M-Pro software, refer to the *M-Tool Overview and Installation Technical Bulletin (LIT-693100)* in this manual.

Starting M-Pro Software

To start M-Pro software, on the Windows Start menu, select Programs > Johnson Controls > M-Tool > System Tools > M-Pro.

Opening an Existing Controller Application

To open an existing controller application:

1. Click Open in the File menu. The Open dialog box appears (Figure 3-2).

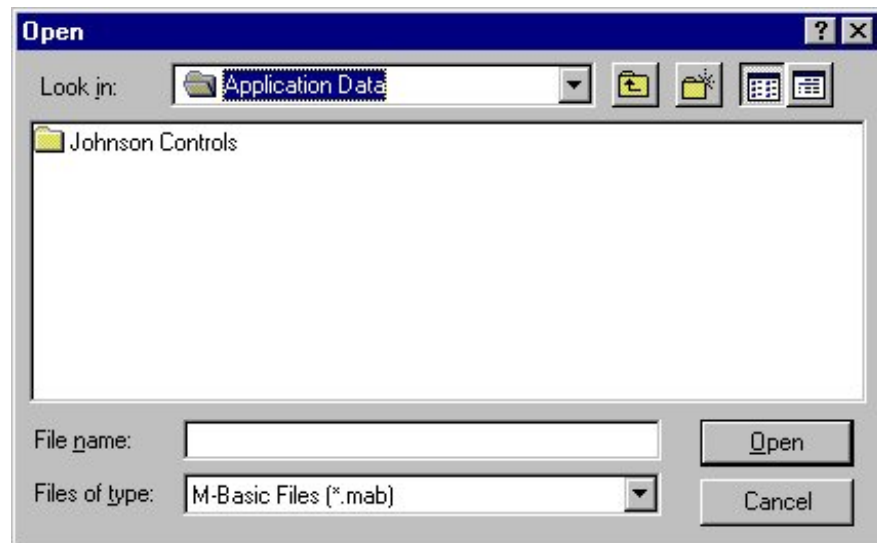


Figure 3-2: Open Dialog Box

2. Navigate to the directory where the file is saved and select it, or type the file name into the File name box.

Note: Controller application files have the .mab extension.

3. Click Open.
4. Click the Attribute data tab to view the folders containing the attributes of the application or click Q&A Path to view the questions and answers used to create the application.

Creating a New Controller Application

To create a new controller application:

1. Click New in the File menu. The Application Selection dialog box appears (Figure 3-3).

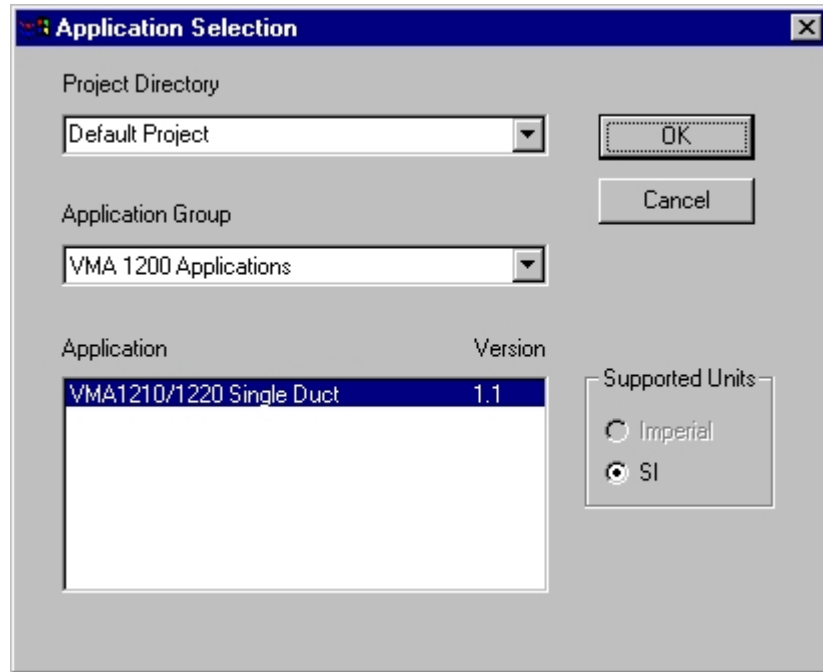


Figure 3-3: Application Selection Dialog Box

2. Select or enter a project directory.

Notes: In many cases, users create a new application within an existing project. For this reason, M-Pro software lists existing projects in the application selection dialog box. You may add a new application to an existing project or specify the name of a new project and a new application. M-Pro software creates the necessary directory structure automatically when a new project is typed into the selection box.

When Johnson Controls Advanced Installation Management (AIM) users select Integrate with AIM in the M-Workstation Settings utility and a Project Folder Manager (PFM) project is active, the Project Label becomes the Project Name, and the Project Name field fills with the PFM project name.

With Integrate with AIM enabled but no PFM project active, this field lists the subdirectories under the Default AIM Database Directory entered in the M-Workstation Settings utility, and its label becomes Project Directory.

With Integrate with AIM disabled, this same field lists the subdirectories under the Database Directory entered in the M-Workstation Settings utility, and its label again becomes Project Directory.

3. Select an application group.
4. Select an application.
5. Select the engineering units for the controller application and controller.

Note: In cases where the controller only supports one system of engineering units, the application can only be saved using that system. Applications can be viewed and edited using either system of units of measure.

6. Click OK. The Q&A session begins (Figure 3-4).

Note: The number and type of screens displayed at this time depend on the application design and device.

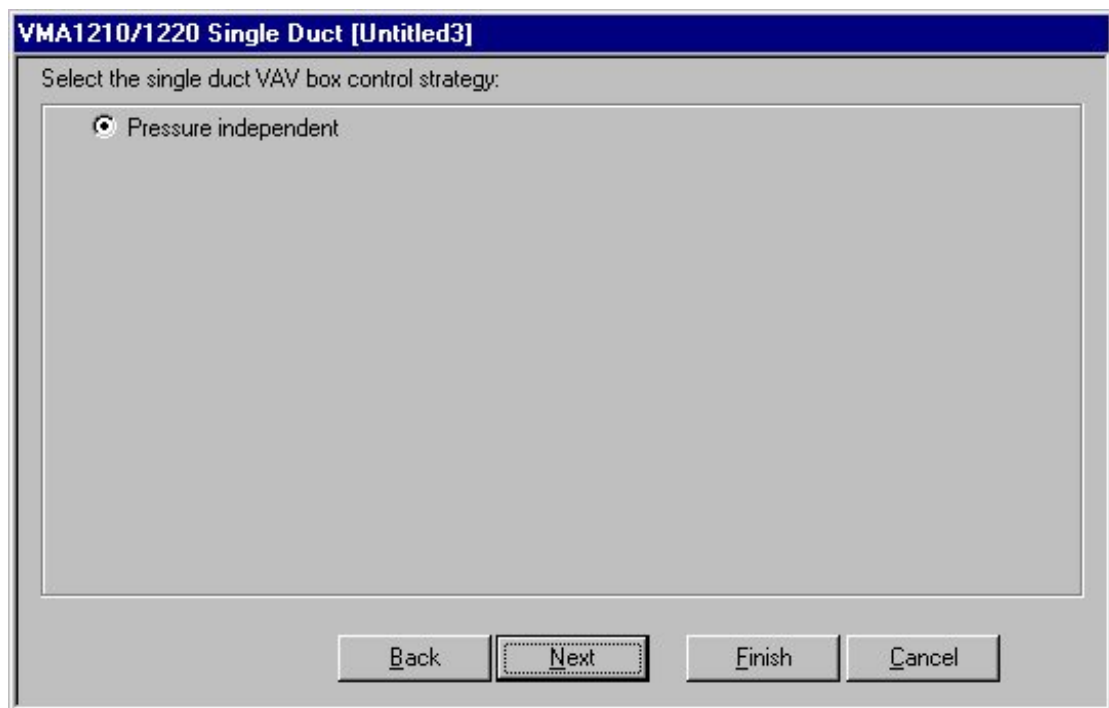


Figure 3-4: Sample Screen of Question and Answer Path in Progress

7. Answer each question by double-clicking on the selected answer or by single-clicking on the selected answer and then clicking Next.
8. Click Finish to keep the answers when done. Click Cancel to discard the answers.

Note: Click Finish at any time during the Q&A session to accept all of the default answers for the remaining questions.

Saving a Controller Application

To save a controller application:

1. Select Save in the File menu.

Note: If the controller application has previously been named, the file is overwritten with the current data. Otherwise, the Save As dialog box appears (Figure 3-5).

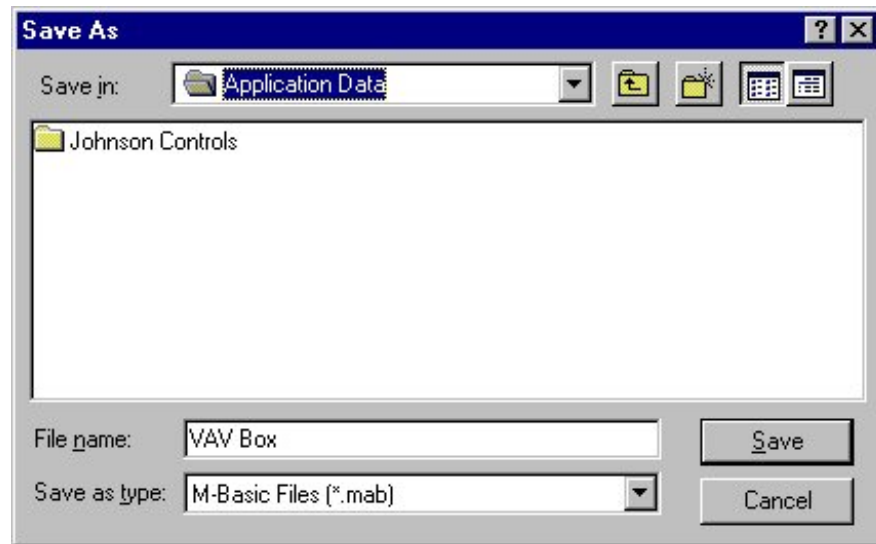


Figure 3-5: Save As Dialog Box

2. Enter the name of the controller application in the File name box.
3. Select a location for the file.
4. Click Save.

Note: Controller applications must be saved in units of measure that are compatible with the units of measure supported by the controller. If you try to save them in units different from those used by the controller, an error message appears. Answer OK to the error message to convert the units and save the application.

Printing Application Data

To print M-Pro controller application data:

1. Select Print in the File menu. The Print dialog box appears (Figure 3-6).

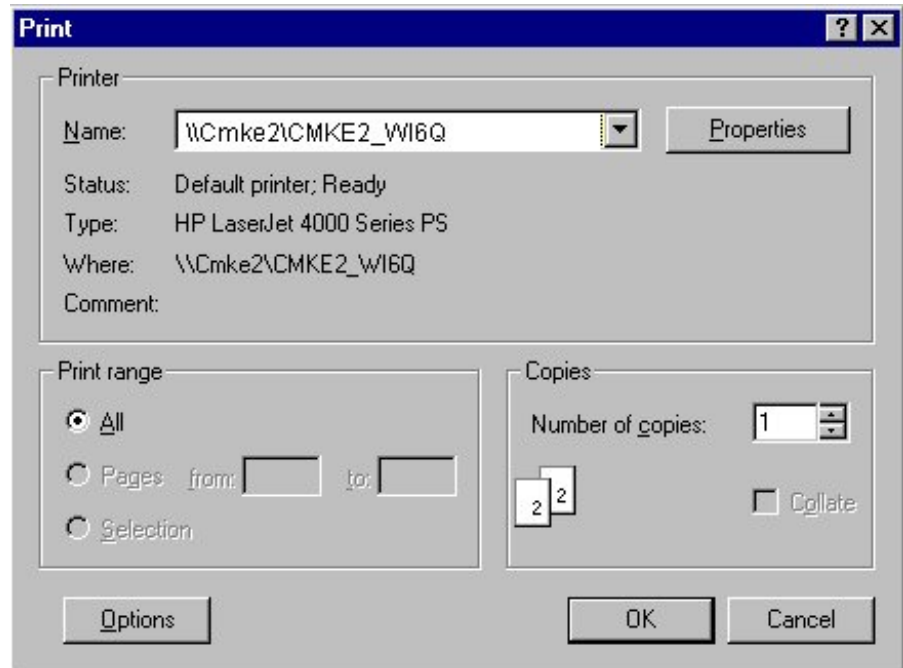


Figure 3-6: Print Dialog Box

2. Click Options and the Options dialog box appears. Select the controller application data to be printed. See the *Setting the Printing Options* section in the *Manipulating M-Pro Controller Applications* chapter for more details on the printing options.

Note: You can also change the print field under the Options screen in the Tools menu.

3. Click OK.

Exiting M-Pro Software

To exit M-Pro software:

1. Click Exit in the File menu.
2. Save the application if prompted.